

### **Abstract**

The present invention relates to a method for smoothing and polishing surfaces by treating them with energetic radiation, in particular laser radiation, in which the to-be-smoothed surface (1) is remelted in a first treatment step using said energetic radiation (3) and employing first treatment parameters at least once down to a first remelting depth (10) of approx. 5 to 100  $\mu\text{m}$ , which is greater than a structural depth of the to-be-smoothed structures of said to-be-smoothed surface (1), wherein continuous radiation or pulsed radiation (3) with a pulse duration of  $\geq 100 \mu\text{s}$  is employed. The method makes it possible to automatically polish any three-dimensional surface fast and cost effective.